

the Editor and all of her friends. A few weeks before, she had been enjoying perfect health and pushing forward her course of instruction in physical geography and meteorology at the State Normal School, Stevens Point, Wis.

Miss De Riemer was born in 1873, in India, of American parents, who were then educational missionaries in Ceylon, but who now reside in Washington, D. C. She had for many years devoted herself to school work, and especially to teaching meteorology, climatology, and physical geography by most original and admirable methods. During the summer of 1898 she devoted herself to work at the Weather Bureau in special lines of investigation, and, among other things, compiled the article on "The average frequency of days of hail during the years 1893-1897," published in the MONTHLY WEATHER REVIEW for December, 1898. She also prepared a popular Primer of Meteorology for the use of such schools as follow modern methods of nature study. This work has, we understand,

been published for the use of teachers in Wisconsin. An impressive memorial service was held in Washington, D. C., where she is buried, and one, also, at Stevens Point, Wis. In her death meteorology has lost a most enthusiastic student and teacher.—C. A.

### CORRIGENDA.

MONTHLY WEATHER REVIEW, February, 1903, page 78, column 1, line 14, for "36" read "38." Page 80, column 2, description of fig. 26, for "mile" read "meter" in both cases. Page 81, fig. 27, column 1, transpose the text but *not* the numbers belonging to figs. I and II. Also, for "in cyclones and the" read "in cyclones and in the."

March, 1903, page 135, in table of mean temperatures, W. R. Castle, omit 78.0° and 55.0°, as these are the absolute extremes, not the mean values.

## THE WEATHER OF THE MONTH.

By W. B. STOCKMAN, Forecast Official, in charge of Division of Meteorological Records.

### CHARACTERISTICS OF THE WEATHER FOR APRIL.

The temperature was above the normal 1.5° to 2.0° in New England, the Middle Atlantic States, Lake region, and North Dakota, and 0.6° above in the upper Mississippi and Missouri valleys; elsewhere it was below normal, the greatest minus departures occurring in the Florida Peninsula, Gulf States, the middle and northern Plateau, and the north Pacific districts.

The precipitation was slightly above the normal in New England, the upper Lake region, upper Mississippi Valley, and the southern and middle Plateau and south Pacific districts, and considerably above in the lower Lake region; elsewhere it was below the normal, the most marked departures occurring in the Florida Peninsula, Gulf States and the north and middle Pacific districts.

The relative humidity was normal in the Middle Atlantic States, upper Mississippi Valley, the southern slope, and north Pacific district. It was slightly below the normal in New England, the Florida Peninsula, South Atlantic and west Gulf States, upper Lake region, North Dakota, the Missouri Valley, and middle Pacific district; in the remaining districts it was above the normal.

The cloudiness was normal in the south Pacific district; above the normal in the Middle and South Atlantic States, Ohio Valley and Tennessee, upper Lake region, upper Mississippi Valley, the southern slope, southern Plateau, and north Pacific district; elsewhere it was below the average.

### PRESSURE.

The distribution of mean atmospheric pressure is graphically shown on Chart IV and the average values and departures from normal are shown in Tables I and VI.

The pressure was highest along the Pacific coast, with secondary high areas of somewhat lower pressure over the Lake Superior region, and along the middle and east Gulf coasts. It was lowest over the southern Plateau region. The pressure was slightly above the normal from southeastern Wyoming southeastward to the Louisiana coast, and southward to the middle Rio Grande Valley; also over the western parts of the middle and northern Plateau regions and in the north and middle Pacific districts; elsewhere it was below the normal, with marked departures east of the Mississippi River, the greatest minus departures occurring over eastern Ohio, southwestern New York, the Middle Atlantic States, the Virginias, and north-central North Carolina.

The pressure increased over that of March, 1903, in the middle and north Pacific regions, and the western parts of the northern and middle Plateau districts, the greatest plus changes occurring along the coasts of northwestern California, and Oregon; elsewhere the pressure diminished from that of

March, with quite marked changes east of the one hundred and tenth meridian, the greatest minus changes occurring over the northeastern portion of the country.

### TEMPERATURE OF THE AIR.

The distribution of maximum, minimum, and average surface temperatures is graphically shown by the lines on Chart VI.

The temperature was above normal in the Atlantic States north of northeastern North Carolina, in the region from eastern Montana, central South Dakota, and western Nebraska eastward to the Atlantic Ocean, and in the eastern part of Colorado, the extreme western part of Texas, and New Mexico, with the greatest plus departures in Michigan, southeastern Wisconsin, northern Minnesota, and parts of South Dakota; elsewhere the temperature was below normal, with decided minus departures in the States from Kentucky southward to northern Florida, and from east-central California and northwestern Arizona northward to Canadian Territory.

Maximum temperatures of 90° or higher occurred in a small area overlying the northern parts of Virginia, Maryland, Delaware, and southeastern New Jersey, and in central Oklahoma, central Texas, extreme southeastern California, and western and south-central Arizona. A maximum of 103° was reported from southeastern California. Minimum temperatures of 32° or lower were reported from all States except Florida.

The average temperatures for the several geographic districts and the departures from the normal values are shown in the following table:

*Average temperatures and departures from normal.*

Districts.	Number of stations.	Average temperatures for the current month.	Departures for the current month.	Accumulated departures since January 1.	Average departures since January 1.
		°	°	°	°
New England .....	8	44.8	+ 1.8	+13.5	+ 3.4
Middle Atlantic .....	12	52.5	+ 1.9	+13.4	+ 3.4
South Atlantic .....	10	60.3	- 1.1	+ 5.9	+ 1.5
Florida Peninsula * .....	8	68.7	- 1.9	+ 5.9	+ 1.5
East Gulf .....	9	63.6	- 2.4	- 2.1	- 0.5
West Gulf .....	7	65.4	- 1.7	- 2.4	- 0.6
Ohio Valley and Tennessee .....	11	55.0	- 1.1	+ 5.3	+ 1.3
Lower Lake .....	8	46.2	+ 1.5	+12.1	+ 3.0
Upper Lake .....	10	42.2	+ 2.0	+14.3	+ 3.6
North Dakota * .....	8	43.9	+ 2.0	+ 6.3	+ 1.6
Upper Mississippi Valley .....	11	51.7	+ 0.6	+ 9.1	+ 2.3
Missouri Valley .....	11	51.5	+ 0.6	+ 6.0	+ 1.5
Northern Slope .....	7	44.4	- 0.2	+ 2.4	+ 0.6
Middle Slope .....	6	53.8	- 0.4	- 0.4	- 0.1
Southern Slope * .....	6	60.6	- 0.5	- 3.4	- 0.8
Southern Plateau * .....	13	54.9	- 1.3	- 5.7	- 1.4
Middle Plateau * .....	8	45.6	- 2.1	-14.5	- 3.6
Northern Plateau * .....	12	44.9	- 2.1	+ 0.9	+ 0.2
North Pacific .....	7	46.8	- 1.9	- 1.1	- 0.3
Middle Pacific .....	5	53.1	- 1.4	- 5.7	- 1.4
South Pacific .....	4	57.4	- 1.3	- 2.5	- 0.6

\* Regular Weather Bureau and selected voluntary stations.

*In Canada.*—Prof. R. F. Stupart says:

The temperature was below the average over British Columbia, and in Alberta, Saskatchewan and western Assiniboia, and elsewhere in the Dominion above the average, except to the northward of Lake Superior and in portions of the Gulf of St. Lawrence. In British Columbia and the Northwest Territories the negative departures varied between 1° and 4°, whereas the plus departures were from 2° to 3° in Manitoba; from 1° to 5° in Ontario; from 1° to 3° in Quebec, and from 0° to 2° in the Maritime Provinces.

**PRECIPITATION.**

The distribution of total monthly precipitation is shown on Chart III.

The precipitation was in excess in southeastern New England, the lower Lake region, and parts of the upper Lake region, Ohio Valley, Middle Atlantic States, and the Carolinas, and in northern Missouri, Kansas, southeastern Nebraska, eastern Iowa, southern and central Minnesota, Wisconsin, northern Illinois, the upper Rio Grande Valley, western parts of New Mexico and Colorado, southern and eastern Utah, southern California, Arizona, except the extreme southeastern part, west-central South Dakota, and south-central Montana; elsewhere it was deficient, the greatest minus departures being reported from the Gulf States.

Snow occurred during the month, except in Delaware, eastern Maryland, the South Atlantic and Gulf States, western Tennessee, the southern parts of Oklahoma, New Mexico, Arizona, and California. At the end of the month the winter's snow had disappeared, except on the high ranges of the Rocky and Sierra Nevada Mountains. On the last two days of the month considerable snow fell over the States of Kansas, Nebraska, Iowa, Minnesota, Wisconsin, and Michigan, generally melting as it fell, but small amounts of this still remained on the ground in scattered localities at the close of the month.

*Average precipitation and departure from the normal.*

Districts.	Number of stations.	Average.		Departure.	
		Current month.	Percentage of normal.	Current month.	Accumulated since Jan. 1.
		<i>Inches.</i>		<i>Inches.</i>	<i>Inches.</i>
New England.....	8	3.35	113	+0.2	+2.1
Middle Atlantic.....	12	2.80	85	-0.5	+1.0
South Atlantic.....	10	3.02	88	-0.4	+1.2
Florida Peninsula*.....	8	0.59	26	-1.7	+6.1
East Gulf.....	9	1.49	32	-3.1	+3.5
West Gulf.....	7	1.12	29	-2.7	+0.7
Ohio Valley and Tennessee.....	11	3.87	97	-0.1	+0.1
Lower Lake.....	8	3.92	169	+1.6	+2.0
Upper Lake.....	10	2.70	117	+0.4	-0.2
North Dakota*.....	8	0.96	49	-1.0	-1.6
Upper Mississippi Valley.....	11	3.47	113	+0.4	-0.6
Missouri Valley.....	11	2.52	86	-0.4	-1.0
Northern Slope.....	7	1.72	100	0.0	-0.1
Middle Slope.....	6	1.74	81	-0.4	-0.2
Southern Slope*.....	6	1.20	48	-1.3	+0.9
Southern Plateau*.....	13	0.93	176	+0.4	-0.1
Middle Plateau*.....	8	1.09	110	+0.1	0.0
Northern Plateau*.....	12	0.66	57	-0.5	-2.3
North Pacific.....	7	2.58	62	-1.6	-6.2
Middle Pacific.....	5	0.63	26	-1.8	-2.1
South Pacific.....	4	1.83	138	+0.5	+0.8

\*Regular Weather Bureau and selected voluntary stations.

*In Canada.*—Professor Stupart says:

In the Maritime Provinces and over the eastern part of Quebec the precipitation was everywhere above the average, St. John, N. B., recording as much as 3.1 inches above; elsewhere, except locally, the average was not maintained, the Ottawa Valley and the northern portion of the Lake region being especially deficient in rainfall. The exceptions where the average was exceeded were Lakes Erie and Ontario and their environs, northwestern Saskatchewan, northern Alberta, and northern British Columbia. At the close of the month a considerable amount of snow lay on the ground on the north shores of Lake Superior, both in the bush and also in the open country. In Cariboo, also, 1 foot was still reported on the level ground, with very deep snow on the mountains.

**HAIL.**

The following are the dates on which hail fell in the respective States:

Alabama, 7, 8, 12, 13, 19, 20. Arizona, 2, 9, 17, 28. Arkansas, 6, 7, 8, 9, 11, 12, 13, 18, 19, 21, 29. California, 1, 2, 9, 10, 13, 14, 15, 16, 17, 26. Colorado, 1, 2, 9, 12, 15, 21, 24, 25, 26, 28. Connecticut, 4, 24. Delaware, 4. District of Columbia, 4. Florida, 13. Georgia, 3, 8, 12, 13, 14, 19, 20, 26. Idaho, 1, 3, 5, 8, 9, 10, 11, 15, 18, 20, 22, 26, 28. Illinois, 3, 10, 11, 12, 19, 25, 30. Indiana, 3, 11, 12, 13, 19. Indian Territory, 12, 18. Iowa, 1, 10, 11, 12, 19, 27, 28, 29. Kansas, 2, 3, 7, 10, 12, 17, 18, 19, 22, 23, 28, 29, 30. Kentucky, 3, 8, 12, 13, 19, 20, 30. Maine, 4, 11, 16, 19. Maryland, 3, 4, 12. Massachusetts, 4, 16. Michigan, 1, 2, 3, 11, 12, 14, 24, 30. Minnesota, 2, 6, 10. Mississippi, 8, 19, 25. Missouri, 3, 6, 7, 8, 10, 11, 12, 13, 14, 18, 19, 20, 24, 29. Montana, 9, 18. Nebraska, 11, 17, 18, 27, 28, 29. Nevada, 1, 10, 16, 17, 27. New Jersey, 4, 14. New Mexico, 26. New York, 3, 4, 7, 14, 15, 22. North Carolina, 14, 15, 20, 21, 22, 26. North Dakota, 12. Ohio, 3, 11, 12, 20, 24, 25, 30. Oklahoma, 29. Oregon, 3, 4, 5, 9, 10, 11, 13, 14, 17, 18, 26. Pennsylvania, 2, 3, 12. Rhode Island, 31. South Carolina, 12, 14, 17, 20, 21, 25, 26. South Dakota, 28, 29. Tennessee, 3, 7, 8, 9, 12, 13, 14, 19, 20, 21, 22, 26. Texas, 8, 12, 18, 23, 28, 29. Utah, 1, 9, 10, 17, 18, 19, 22, 27, 28. Vermont, 10. Virginia, 14. Washington, 2, 3, 4, 5, 7, 8, 9, 10, 11, 13, 14, 17, 18, 19, 20, 22. West Virginia, 13, 19, 23. Wisconsin, 1, 2, 12, 28, 30. Wyoming, 2, 21.

**SLEET.**

The following are the dates on which sleet fell in the respective States:

Arizona, 2, 9. Arkansas, 3. California, 9, 10. Colorado, 10, 17, 20, 21, 28, 29. Connecticut, 4. Delaware, 4. Idaho, 4, 11, 30. Illinois, 3, 21, 25, 30. Indiana, 3, 4, 22. Iowa, 3, 6, 23, 28, 29, 30. Kansas, 2, 3, 12, 28, 29, 30. Kentucky, 3, 22. Maine, 4, 5, 7, 15, 16, 17, 25. Maryland, 4. Massachusetts, 4, 15, 16. Michigan, 1, 2, 3, 6, 7, 8, 13, 14, 15, 28, 29, 30. Minnesota, 6, 7, 28, 29, 30. Missouri, 23, 29, 30. Montana, 2, 9, 10, 11, 16, 18. Nebraska, 7, 28, 29, 30. Nevada, 1, 14. New Hampshire, 4. New Jersey, 4, 5. New Mexico, 2, 23, 29. New York, 3, 4, 14, 15, 16, 22. North Dakota, 27. Ohio, 3, 4, 11, 22, 23, 24. Oregon, 4, 9, 10. Pennsylvania, 4, 23. South Dakota, 6, 28, 29. Tennessee, 3, 14, 22, 26. Utah, 1, 2, 10, 11, 17, 18, 27, 28. Vermont, 15, 16. Virginia, 5. Washington, 3, 5, 6, 7, 8, 9, 10, 14. West Virginia, 4. Wisconsin, 1, 2, 14, 15, 21, 24, 28, 29, 30. Wyoming, 1, 5, 25, 28.

**SUNSHINE AND CLOUDINESS.**

The distribution of sunshine is graphically shown on Chart VII, and the numerical values of average daylight cloudiness, both for individual stations and by geographical districts, appear in Table I.

The averages for the various districts, with departures from the normal, are shown in the following table:

*Average cloudiness and departures from the normal.*

Districts.	Average.	Departure from the normal.	Districts.	Average.	Departure from the normal.
New England.....	5.2	-0.1	Missouri Valley.....	5.0	-0.4
Middle Atlantic.....	5.4	+0.2	Northern Slope.....	5.0	-0.4
South Atlantic.....	4.8	+0.4	Middle Slope.....	4.2	-0.2
Florida Peninsula.....	3.5	-0.4	Southern Slope.....	4.9	+0.7
East Gulf.....	4.4	-0.1	Southern Plateau.....	2.8	+0.5
West Gulf.....	4.5	-0.7	Middle Plateau.....	4.2	-0.3
Ohio Valley and Tennessee.....	6.0	+0.7	Northern Plateau.....	5.7	-0.6
Lower Lake.....	5.2	-0.3	North Pacific.....	6.8	+0.3
Upper Lake.....	5.8	+0.1	Middle Pacific.....	3.3	-1.3
North Dakota.....	4.7	-0.8	South Pacific.....	3.9	0.0
Upper Mississippi Valley.....	5.9	+0.4			

**HUMIDITY.**

The averages by districts appear in the subjoined table: